Musculoskeletal pain in female asylum seekers and hypovitaminosis D

Gabrielle de Torrenté de la Jara, Alain Pécout and Bernard Favrat

BMJ 2004;329;156-157
doi:10.1136/bmj.329.7458.156

Updated information and services can be found at:
http://bmj.com/cgi/content/full/329/7458/156

These include:

References
This article cites 22 articles, 8 of which can be accessed free at:
http://bmj.com/cgi/content/full/329/7458/156#BIBL

1 online articles that cite this article can be accessed at:
http://bmj.com/cgi/content/full/329/7458/156#otherarticles

Rapid responses
2 rapid responses have been posted to this article, which you can access for free at:
http://bmj.com/cgi/content/full/329/7458/156#responses

You can respond to this article at:
http://bmj.com/cgi/eletter-submit/329/7458/156

Email alerting service
Receive free email alerts when new articles cite this article - sign up in the box at the top right corner of the article

Topic collections
Articles on similar topics can be found in the following collections

Medical Consequences of Conflict (393 articles)
Other Women's health - other (445 articles)
Global health (1414 articles)
Drugs: musculoskeletal and joint diseases (310 articles)
Culture (320 articles)
Other nutrition and metabolism (1085 articles)
Socioeconomic Determinants of Health (733 articles)

Notes

To order reprints of this article go to:
http://www.bmj journals.com/cgi/reprintform

To subscribe to BMJ go to:
http://bmj.bmjournals.com/subscriptions/subscribe.shtml
Deficiency of vitamin D, which can lead to osteomalacia, is common in elderly patients in Western countries. However, it is still widely undiagnosed in young immigrant women, even though the condition has been extensively reported in the immigrant Indo-Asian population in the United Kingdom since the 1960s. A recent study reports an average 59 months before diagnosis was established, and another study found a prevalence of 78% of hypovitaminosis D$_3$ (compared with 58% in controls) in an Indo-Asian population attending a UK rheumatology clinic. When recognised, hypovitaminosis D$_3$ is easily treatable. A study on osteomalacic myopathy in veiled Arabic women in Denmark found that muscle strength returned to normal (except in maximal voluntary contraction) after six months’ treatment. 

We expected to see this disease in female asylum seekers, especially in those from societies with different customs regarding exposure to sunlight and diet. We report 11 cases of symptomatic hypovitaminosis D$_3$ in female asylum seekers (table 1). We focus on the pathology encountered by the primary care doctors those of patient 11) were typical of hypovitaminosis D$_3$ from the outset. With treatment, most patients’ symptoms disappeared within one to three months. One patient needed seven months of treatment.

At diagnosis, the mean serum 25-hydroxycholecalciferol concentration was 10.9 (3.8) nmol/l (table 2). These concentrations were during November to May, when the intensity of the sun is low at latitude 46.3°. For 10 patients, the mean concentration of blood calcium on diagnosis was 2.19 (0.09) mmol/l, and four patients had hypocalcaemia (< 2.15 mmol/l).

### Discussion

Asylum seekers are at risk because of the possible high prevalence of hypovitaminosis D$_3$, and difficulty in recognising the condition. The first diagnosis considered, in an often psychologically difficult context, is one suggestive either of somatoform disorder, as described in ICD-10 (international classification of diseases, 10th revision) or somatisation. Patients with psychological disorders may report, agitii between 23 and 57 years who volunteered during the month of October.

The first diagnoses, before the diagnoses of hypovitaminosis D$_3$, were made, were possible somatisation disorder in three patients, chronic back pain in four patients, and multiple unexplained somatic symptoms in three patients. Doctors considered and mentioned hypovitaminosis D$_3$ in only one case after being formerly told of the possible high prevalence of the disease and suspecting it on presentation.

The mean duration of symptoms before diagnosis was 38 months and 3 days (3.18 (standard deviation 4.15) years). Most complaints (with the exception of those of patient 11) were typical of hypovitaminosis D$_3$, from the outset. With treatment, most patients’ symptoms disappeared within one to three months. One patient needed seven months of treatment.

With treatment, complete resolution is rapid—usually within three months. Doctors simultaneously treated patient 11 for a suspected venous insufficiency.
The resolution of symptoms was due to either the combination of vitamin D and calcium or the treatment for venous insufficiency (support stockings, dissemin, and hesperidin tablets and heparin-antithrombexpanthel gel) or both. The literature suggests that the resolution of symptoms associated with hypovitaminosis D typically occurs between three and six months: three months for symptoms due to the osteopathy⁷ and six months for the myopathy.¹⁶

The patients in our cases had low concentrations of 25-hydroxycholecalciferol. Even though the reference range for serum 25-hydroxycholecalciferol is difficult to determine, because it varies with season and geography, concentrations below 20 nmol/l indicate severe deficiency.¹¹⁻¹³ Concentrations greater than 50 nmol/l prevent secondary hyperparathyroidism.¹⁰ Other authors have proposed that the cut-off concentration is 78 nmol/l,¹⁴ and for elderly people it may be greater than 100 nmol/l.¹⁵⁻¹⁷ Concentrations of at least 75 nmol/l are necessary to maintain cellular function.¹⁰ Achieving these concentrations requires the elimination of some risk factors, such as reduced exposure to sunlight (covering arms and legs while outdoors, winter season, and housebound status) and a strict vegetarian diet, which are the most reliable predictors of hypovitaminosis D.¹⁰⁻¹⁹ Nevertheless, large educational campaigns within an Asian community resulted in an improvement in vitamin D deficiency among the children.²⁰ Routine vitamin D supplementation seems to be beneficial for populations at risk.¹⁰ Various authors recommend a daily intake of 800-1000 IU (50-62.5 nmol; 20-25 μg) for benefits in health.¹⁰⁻¹⁷

A recent study found that 28% of patients (immigrants and non-immigrants) presenting with persistent non-specific musculoskeletal pain in a community health centre in Minnesota had severe vitamin D deficiency, emphasising the importance of this disorder.¹⁵ Hypovitaminosis D in female asylum seekers may remain undiagnosed with a prolonged duration of chronic symptoms and the associated pitfall of potential misdiagnosis of the symptoms as somatisation. Treatment is beneficial, with a rapid resolution of symptoms. Doctors should be aware of the importance of the disease and the impact of rapid diagnosis and treatment. Future research should consider routine supplementation in this population.

We thank W Ghali (University of Calgary, AB, Canada) for his comments and corrections on the revised manuscript and M Spajecovic and FH for the translations.

### Table 2: Clinical and laboratory data for 11 female asylum seekers with hypovitaminosis D

<table>
<thead>
<tr>
<th>Patient</th>
<th>Diagnosis considered</th>
<th>Duration of symptoms (months)</th>
<th>Time of response to treatment (months)</th>
<th>25-hydroxycholecalciferol concentration (nmol/l)</th>
<th>Calcium concentration (nmol/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Somatoform disorder</td>
<td>38</td>
<td>3</td>
<td>16.0</td>
<td>2.28</td>
</tr>
<tr>
<td>2</td>
<td>Weakness of unknown origin</td>
<td>8</td>
<td>3</td>
<td>7.7</td>
<td>2.08</td>
</tr>
<tr>
<td>3</td>
<td>Lower back pain with functional component</td>
<td>60</td>
<td>1</td>
<td>10.5</td>
<td>*</td>
</tr>
<tr>
<td>4</td>
<td>Possible somatoform disorder</td>
<td>24</td>
<td>3</td>
<td>11.5</td>
<td>2.34</td>
</tr>
<tr>
<td>5</td>
<td>Knee: arthritis; no other formal diagnosis</td>
<td>36</td>
<td>2</td>
<td>13.5</td>
<td>2.23</td>
</tr>
<tr>
<td>6</td>
<td>Back pain then no formal diagnosis</td>
<td>27</td>
<td>2</td>
<td>9.2</td>
<td>2.05</td>
</tr>
<tr>
<td>7</td>
<td>Somatoform disorder</td>
<td>12</td>
<td>1</td>
<td>4.5</td>
<td>2.11</td>
</tr>
<tr>
<td>8</td>
<td>Chronic back pain</td>
<td>180</td>
<td>2</td>
<td>10.7</td>
<td>2.14</td>
</tr>
<tr>
<td>9</td>
<td>Mechanical back pain</td>
<td>24</td>
<td>7</td>
<td>8.2</td>
<td>2.14</td>
</tr>
<tr>
<td>10</td>
<td>Restless legs; polyneuropathy; unexplained symptoms</td>
<td>12</td>
<td>2</td>
<td>13.7</td>
<td>2.24</td>
</tr>
<tr>
<td>11</td>
<td>Atypical sciatitic; venous insufficiency; osteomalacia</td>
<td>2</td>
<td>2</td>
<td>16.2</td>
<td>2.24</td>
</tr>
</tbody>
</table>

*Calcium concentration was not measured.

Contributors: Gde T and Daj initiated the study, collected the data in the patients’ files, wrote the text, and saw patients for their written consent. AP gave authorisation for the study to be done in the outpatient clinic and supervised it. BF initiated and supervised the study. BE is guarantor.

Funding: None.

Competing interests: None declared.

Ethical approval: Not needed.